DOCUMENT RESUME

ED 400 651 EC 305 135

TITLE	Optimizing Learning. Proceedings of the Annual Society for the Advancement of Gifted Education Conference (6th, Edmonton, Alberta, Canada, September 29-30, 1995).
INSTITUTION	Society for the Advancement of Gifted Education, Calgary (Alberta).
PUB DATE	Sep 95
NOTE	38p.
AVAILABLE FROM	Society for the Advancement of Gifted Education, c/o Centre for Gifted Education, 846 Education Tower, The University of Calgary, 2500 University Drive, NW, Calgary, Alberta, Canada T2N 1N4.
PUB TYPE	Collected Works - Conference Proceedings (021)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Child Rearing; Classroom Techniques; *Cooperative Learning; Educational Strategies; Elementary Secondary Education; Females; Foreign Countries; *Gifted; *Leadership Training; *Parenting Skills; Parents as Teachers; Role Models; *Sex Stereotypes; Social Attitudes; *Underachievement

ABSTRACT

This conference proceedings focuses on structuring classrooms to optimize learning among Alberta (Canada) gifted students. The first paper, "Optimizing Parent Potential" (Trudy A. Harrold), describes a model and a process for helping parents acquire knowledge, organize their thinking, and act from a realistic base when dealing with their gifted child. "Optimizing Leadership Development" (Michael C. Pyryt) describes a model of leadership development that is based on a triangular theory of love (intimacy, passion, and commitment). "Gifted Girls: Promise to Prominence" (Grace A. Schlosser) reviews research on eminent women and draws suggestions for parenting and educating gifted girls. In "Parents as Models," Beverley A. Sohnle discusses the influence of parental behavior on their gifted children, as well as how to model the desired behavior. "Underachievement of Women and Girls: Changing Societal Expectations and Attitudes" (Lorraine Wilgosh) reviews evidence that gender inequity in the workplace, particularly in science and engineering professions, may result from differential educational and employment opportunities for women due to educational and societal biases. "Cooperative Learning: Is It Suitable for Gifted Students?" (Carolyn Yewchuk) discusses the benefits and disadvantages of cooperative learning for gifted students and compares different types of cooperative learning strategies. (References accompany each paper.) (CR)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 400 651

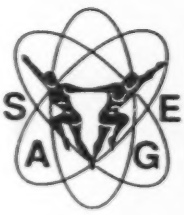
U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

OPTIMIZING LEARNING.

CONFERENCE PROCEEDINGS

6th Annual SAGE Conference
September 29-30
1995
Centre for Education
One Kingsway
Edmonton, Alberta

Society for the Advancement of Gifted Education



EC305135

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
B. Bryages
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

BEST COPY AVAILABLE

OPTIMIZING LEARNING
1995

CONFERENCE PROCEEDINGS

6th Annual SAGE Conference
The Society for the Advancement of Gifted Education

Conference Proceedings produced by
The Society for the Advancement of Gifted Education
c/o Centre for Gifted Education
The University of Calgary
846 Education Tower
2500 University Drive N. W.
Calgary, AB. T2N 1N4

OPTIMIZING LEARNING

6th Annual SAGE Conference

The Society for the Advancement of Gifted Education (SAGE) is an umbrella organization consisting of the primary stakeholders in gifted education in Alberta: the Centre for Gifted Education (CGE) at The University of Calgary, the Gifted and Talented Education Council (GTEC) of the Alberta Teachers' Association, Alberta Education, and the Alberta Associations for Bright Children (AABC).

The 6th Annual SAGE Conference with a theme of *Optimizing Learning* was held at the Centre for Education, 1 Kingsway Avenue, Edmonton, Alberta, on September 29-30, 1995.

Tne major focus of the Conference was on structuring classrooms to optimize learning among students differing in specific abilities and background experiences. Keynote speaker Dr. Barbara Clark outlined seven steps to optimizing learning in the classroom including strategies for developing responsive environments and creating challenging learning activities through assessment, differentiation, individualization, and integration of cognitive, affective, physical and intuitive areas of brain function. Breakout speakers elaborated on the conference theme in a variety of ways, focusing on differentiation in academic content areas, and on a variety of topics related to enhancement of educational experiences for gifted and talented children.

We are pleased to provide this document, which represents summaries of selected conference sessions. For those participating in the 6th Annual SAGE Conference, we hope these Proceedings capture the spirit of the conference.

We would like to acknowledge the assistance of the University of Alberta Conference Fund and the Centre for Gifted Education at The University of Calgary in the preparation of this document. We hope you find these Proceedings informative.

Colleen Solyom
Carolyn Yewchuk
Conference Co-Directors

CONFERENCE PROCEEDINGS
1995
6th Annual SAGE Conference
'Optimizing Learning'

CONTENTS

1	*Trudy A. Harrold*	Optimizing Parent Potential
5	*Michael C. Pyryt*	Optimizing Leadership Development
9	*Grace A. Schlosser*	Gifted Girls: Promise to Prominence
17	*Beverley A. Sohnle*	Parents as Models
23	*Lorraine Wilgosh*	Underachievement of Women and Girls: Changing Societal Expectations and Attitudes
29	*Carolyn Yewchuk*	Cooperative Learning: Is it Suitable for Gifted Students?

Optimizing Parent Potential

Trudy A. Harrold
Aspenhurst Learning Centre
Lamont, Alberta

When we talk about *Optimizing Learner Potential*, we must also consider ways to *Optimize Parent Potential* because knowledgeable parents are vital to any kind of effective opportunity to maximize the potential of learners. How can we help parents acquire knowledge, organize their thinking and act from a realistic base when dealing with their gifted child?

This paper is an attempt to describe both a model and a process for answering such a question. The model is like a mind-map for a way of thinking about gifted children and the process is how that thinking evolved amongst the participants in the SAGE Conference session, moving these particular parents to a new place from which to act.

First, the group in our session were asked to think about the model. From my years in Early Childhood Education, and subsequently in Special Education, I discovered a framework for looking at children's needs that has proven a valuable tool for myself as a teacher and as a parent. It rests on the assumption that all children have similar developmental needs in five basic areas: INTELLECTUAL, CREATIVE, EMOTIONAL, PHYSICAL and SOCIAL. These needs can be represented as they are in the circle in Figure 1. This circle I call the PERSONAL GROWTH WHEEL, and it functions as a "map", if you like, to the development of the person. (It is developmental in focus, process-oriented, observable and open-ended, all of which were criteria that needed to be met for the model to be useful). Each of these five areas can then be broken down into developmental steps.

When we are talking about gifted children, we are still speaking of children who have the same basic developmental needs as other children, but these children have some additional needs. These needs specific to the gifted can be categorized in the Personal Growth Wheel, as well. For example, it is generally accepted that children who are gifted may exhibit

unusual intensity—both emotionally and in their task commitment. If we were to consider these characteristics, and place "intensity" in the emotional portion of the wheel and in the intellectual portion, we can then think about what this characteristic might mean in those areas. A gifted child may need to pursue things beyond allotted time-spans or may need help processing intense emotional experiences. We then have a sense of direction for things that can be done to assist this child's development. This same activity can be done for many characteristics of the gifted, to gain a more wholistic picture of the child and his/her needs, and what we might do in response to those needs.

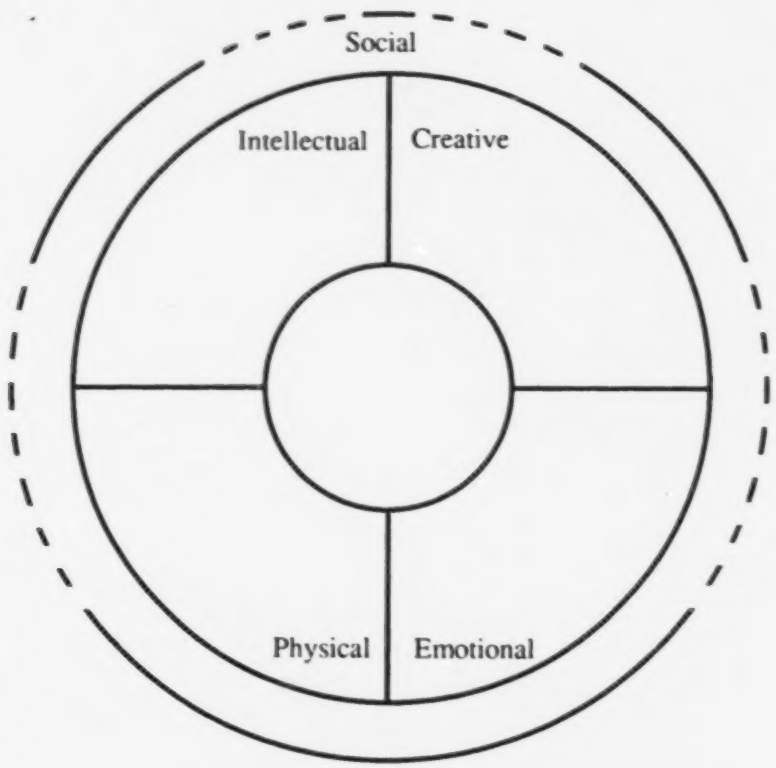


Figure 1
Personal Growth Wheel

© T. A. Harrold, 1994

Another aspect that emerges with the use of a model such as the Personal Growth Wheel is that we discover that "asynchronous development" is a quality that often is present for gifted individuals. By this is meant an "unevenness" in development, in which there may be very advanced abilities in one area of the wheel, coupled with areas of difficulty in other aspects such as emotions or social skills. Many parents can relate to this, as they struggle with children who seem so mature in some ways and so immature in others!

Once we have established the nature of the child's needs, looking at both his/her basic developmental needs and those that occur because of the child's heightened cognitive abilities and/or heightened intensity, how do we go about meeting the needs of that child? To answer that question, a couple of basic premises about the needs of gifted children must be addressed first:

1) We are likely talking about "hard-wiring" here, in many cases. These children are often not about to be changed to fit some pre-established pattern; for example, to fit what a "six-year-old" should do and say. They are operating from their own internal system and it behooves us as adults to tune into that early on, and let the child teach us. We may need to make modifications in order for this person to reach their potential, as well as teaching them to learn to handle their strengths and weaknesses.

2) These children require active parenting skills on behalf of their parents. These are generally not children that one can sit back and watch unfold without a lot of effort on the behalf of parents to guide and support. The more that parents know, the stronger their parenting position can be.

We then began to look more closely at the model again, discussing what we could do about some of the difficult emotional problems that beset gifted children. Interestingly enough, this is the point at which the discussion shifted from a focus on myself as a presenter to an animated, interactive discussion among the participants. There was a real sense of recognition that dawned on some of the people present, that they were actually among people who understood what they struggle with on a day-to-day basis. Sharing, empathy and suggestions were flying thick and fast! Suddenly the participants themselves were actively

engaged in a learning process that had begun with our discussions in the emotional realm of the Personal Growth Wheel. Feeling free to name and express feelings in the emotional realm led these parents on to generating and listening to alternatives from one another (a creative process), to recognizing that they could actively plan more effectively for their child's needs (an intellectual process), to building a sense of networking among others who shared an aspect of their experience (a social process). It was an exciting learning experience, one which was interrupted by the call to lunch, and a return to the remainder of the day's sessions!

There are two points that can be drawn from this. First, parents need new ways to look at issues related to the raising of their gifted children. This model, the Personal Growth Wheel, is only one of many ways to provide some structure and method to the array of information that parents find themselves needing in their lives with gifted children. Second, parents need to feel empowered and pro-active, not powerless and reactive. The health of families rests on the degree of control felt. Any opportunities that we have as educators to provide experiences in which parents grow stronger and more sure-footed on this precarious trail of living with a gifted child is well worth the investment. *Optimizing Parent Potential* along with that of our students is a win-win situation.

Optimizing Leadership Development

Michael C. Pyryt
The University of Calgary
Calgary, Alberta

Triangular Model of Leadership Development

The purpose of this paper is to describe Pyryt's (1993a) triangular model of leadership development, which is based on Sternberg's (1986, 1988) triangular theory of love. Sternberg has proposed that the major ingredients of a successful loving relationship are intimacy (ability to interact comfortably and share feelings), passion (physical passion), and commitment (decision to have a long term relationship and perseverance in the face of frustration). Predictions about relationships can be made about the nature and viability of a relationship based on the perceived presence of the three ingredients. For example, a relationship with intimacy only is likely to be a platonic one. A relationship with passion and intimacy is likely to result in a summer affair rather than a long-term relationship. Pyryt (1993a, 1993b, 1993c) has applied these concepts to the development of leadership, creativity and eminence. In terms of leadership potential, a person who only develops intimacy is predicted to be a leadership researcher. A person with only passion is predicted to be a frequent cause switcher. A person with only commitment is likely to be a committee worker. The combination of intimacy and passion might lead to short-term commitments to particular idealogies. The combination of passion and commitment is predicted to lead to cult leadership. The combination of intimacy and commitment is predicted to lead to a "behind the scenes" leadership style, where the individual has a positive impact on the group but doesn't receive the recognition reserved for the designated leader. The triangular theory of leadership predicts that "world class" leadership involves the three ingredients of intimacy, passion and commitment.

Intimacy

In terms of leadership, there are five broad areas that must be addressed in terms of Intimacy: domain knowledge, notion of leadership, nature of leadership, personal style, and personal skills. Domain knowledge (i.e., knowledge of the content and methodology of the

discipline) provides the credibility needed for the potential leader to win the support of colleagues and subordinates in the organization. In the educational system, future principals with extensive teaching backgrounds and will have more credibility among staff than principals with extensive higher education credentials but limited teaching experience. In addition to knowledge and experience in particular fields, potential leaders must develop friendship and familiarity with the notion of being a leader. Potential leaders must also develop a conceptual understanding of the nature of leadership. Foster (1981) provided such a conceptual framework by describing four approaches to the study of leadership: The trait approach, the process approach, the needs approach, and the role approach. The trait approach focuses on the characteristics of people who have been recognized as leaders. Characteristics typical of leaders include verbal intelligence, motivation, sociability, and charisma. The process approach, also known as the situational approach, examines the use of particular leadership styles in response to potential leadership situations. Leadership styles are characterized as falling on a continuum ranging from non-directive as typified by the laissez-faire leadership style to a directive style typified by the autocratic style. The democratic style lies in the middle of the continuum. Situational leadership suggests that a directive style is best when situations are favorable or unfavorable. A non-directive style is best when situations are moderately favorable or moderately unfavorable. Contingency factors affecting perceived favorability include position power, task structure, and personal relationship. Position power refers to the degree to which one's position permits the leader to exert control. Task structure is the extent to which the task requirements are clearly specified. This is determined by evaluating whether the goal is clear, whether there is a single path to the goal, whether there is one correct decision, and whether the outcome can be easily evaluated. Personal relationship reflects the ability of the leader to get along with group members. Situations where the leader has a legitimate position of power, good relationships with group members and a clear task structure would benefit from a directive leadership style. If a leader does not have a legitimate position of power or a clear task structure, a non-directive style is recommended (Shaw, 1976). The needs approach to leadership suggests it is important to focus on the followers and determine how their needs determine the characteristics of the leader. Finally, the role approach focuses on the development of skills that a person needs to function as a leader. In addition to knowledge of the nature of leadership, a potential leader should be comfortable with one's personal style. Generally, leaders differ in

the balance between task orientation (focusing on getting the job done) and relationship orientation (focusing on ensuring good feelings among group members). Potential leaders should pay attention to the particular skills that they possess. Karnes and Chauvin (1985) have developed an instrument that permits individual diagnosis and program planning for developing specific leadership skills. The leadership skills in their approach are: fundamentals of leadership, written communication skills, speech communication skills, values clarification, decision-making skills, group dynamic skill, problem-solving skills, personal skills, and planning skills.

Passion

Passion is the motivational component of leadership. Passion provides a leader with the charismatic ability to excite oneself and others about the importance of the cause. The triangular theory of leadership suggests that individuals are most likely to pursue leadership roles in disciplines that provide physiological stimulation. An analogue of this process is the positive addiction to aerobic activities after the sustained release of beta-endorphins (Sachs, 1984). The potential of any discipline to be physiologically arousing for an individual is multi-determined just as the arousing qualities of a potential love partner or sexual practice is multi-determined (Money, 1980, 1986).

Commitment

Commitment provides the ability to endure the numerous frustrations that often occur while performing leadership roles. Commitment is critical when innovations are introduced in organizations. Leaders need patience to see their ideas implemented to the full extent despite initial complaints about the problems with the innovative approach. Leaders need commitment to their visions in order to have enduring innovations. Perhaps, Thomas Edison said it best, "Genius is 1% inspiration and 99% perspiration."

Implications

Several implications arise from this adaptation of Sternberg's (1986, 1988) theory of love to leadership development. First, there is a great need for content acquisition in the areas of an individual's passion. Second, leadership training should also provide thorough grounding in leadership theory. Third, individuals should be taught to assess their preferred

arousal to help individuals identify passion areas. Fifth, there is a need to use a variety of techniques such as exposure to role models, bibliotherapy, video therapy, and exposure to the research literature so that individuals will internalize the absolute need for commitment. Finally, leadership development is a dynamic process; increments in intimacy, passion, or commitment will likely lead to increments in the other components.

References

Foster, W. (1981). Leadership: A conceptual framework for recognizing and educating. *Gifted Child Quarterly, 25,* 125-131.

Karnes, F. A., & Chauvin, J. C. (1985). *Leadership Skills Inventory*. East Aurora, NY: DOK.

Money, J. (1980). *Love and love sickness: The science of sex, gender difference, and pair-bonding*. Baltimore: The Johns Hopkins University Press.

Money, J. (1986). *Love maps: Clinical concepts of sexual/erotic health and pathology, paraphilia and gender transposition in childhood, adolescence, and maturity*. New York: Irvington.

Pyryt, M. C. (1993a, August). *A triangular model of leadership development*. Paper presented at the Tenth World Conference on Gifted and Talented Children, Toronto.

Pyryt, M. C. (1993b). The three faces of creativity revisited: Intimacy, passion and commitment. *Gifted Education International, 9,* 22-23.

Pyryt, M. C. (1993c, November). *A triangular theory of eminence*. Paper Presented at the meeting of the National Association of Gifted Children, Atlanta.

Sachs, M. L. (1984). The runner's high. In M. L. Sachs & G. W. Buffone (Eds.), *Running as therapy: An integrated approach*. Lincoln, NE: University of Nebraska Press.

Shaw, M. E. (1976). *Group dynamics: The psychology of small group behavior* (2nd ed). New York: McGraw-Hill.

Sternberg, R. J. (1986). A triangular theory of love. *Psychological Review, 93,* 119-135.

Sternberg, R. J. (1988). Triangulating love. In R. J. Sternberg, & M. L. Barnes (Eds.), *The psychology of love* (pp. 119-138). New Haven, CT: Yale University Press.

Gifted Girls: Promise to Prominence

Grace A. Schlosser
University of Alberta
Edmonton, Alberta

There is clearly a link between showing promise as a girl and becoming a highly successful, prominent woman, but the connection is not well understood. Research literature does not provide much information about the promotion of achievement motivation in girls. Studies of the gifted have typically ignored sex differences, yet gifted women have achieved much less than gifted men. Most of that written about the gifted children is really about gifted boys; most of the research on eminent adults pertains only to men. To adequately facilitate and encourage the development of potential in females, parents and teachers must recognize that they have very special needs. Recent research results in the study of eminent women can be used as a source of valuable suggestions for parenting and educating gifted girls.

Girls may demonstrate outstanding ability at one stage in their development, however, the same level of ability is not revealed in follow-up study. Women studied by Terman and Oden (1959) did not achieve as much educationally or become eminent as often as men, even though they showed equal or superior ability to their male counterparts as students. Fewer girls are nominated and identified as gifted. Those labelled as gifted do not often go on to prominence (Subotnik, Kassan, Summers, & Wasser, 1993). Eminence is a rare event linked to the culture of a particular era. Studies of the eminent and portrayals of high achievers have usually been of males, largely because there have been so few women who have attained a degree of fame. Only about three percent of all illustrious figures in western history and one percent of all notables in science have been females (Simonton, 1994). Differential socialization and societal pressures on women are determining factors in the underachievement of females.

Stereotyping delivers powerful messages to girls about their roles, importance, and worth as persons. The research into sex differences has served to promote some of the stereotypical attitudes in society by emphasizing that girls show lower levels of mathematical

ability and more advanced levels of verbal ability. In fact, the differences between the sexes are very small and there are two facts that cloud the issue of whether the measured discrepancies are truly sex differences. First, the differences between girls and boys are not consistent over time. There are no differences in overall achievement in elementary school; however, the proportion of girls who excel begins to drop in junior high school and continues throughout all subsequent education. Another complication is that gender differences across cultures are not conclusive. On international examinations in physics, Japanese girls score lower than Japanese boys, but higher than American boys (Gipps & Murphy, 1994). These contradictions suggest that the differences between males and females are modifiable. The home and the school are the contexts in which girls are socialized; parents and teachers must accept responsibility for the messages they internalize. When the belief that girls are better at English and poorer in science is reflected, differential preparation is promoted. Lack of mathematics preparation has become a barrier to the advancement of women in business as well as higher education.

The crucial factor in adult productivity established through the study of eminent individuals is personality disposition. The pertinent personality characteristics derive from values in the family and school (Albert, 1990). Piirto (1994) lists the following personality attributes as necessary in talent development: persistence, compulsiveness, tolerance for ambiguity, creativity, thinking, naiveté, self-esteem, self-efficacy, intuition, aggressiveness, androgyny, resilience, feeling, drive, passion, leadership, self-discipline, imagination, perception, and judging. Inhibitors to achievement in girls include sex-role stereotyping and the societal attitude that provides less pressure on women to be independent. Girls typically are taught to be passive, accepting, and nurturing; to play quieter games, and not to take risks. As a result, they are less apt than boys to portray the personality attributes associated with adult recognition and eminence.

Classroom teachers may be inadvertently reinforcing the same behaviors unless they understand that males and females display different teaching and learning styles. They must become aware of their own levels of attention, student feedback, and expectations, ensuring equity between the sexes in the classroom. Gender separation takes place when boys are chosen to help with moving and setting up equipment and girls are asked to assist with

cleaning up after art projects. Adults tend to speak publicly and harshly to boys, and more briefly, softly, and privately to girls. Teachers must be careful that they do not encourage behavioral differences by providing more frequent reinforcement of creativity in boys and of conformity in girls. Because girls generally have different learning styles, educators need to use a variety of methods in their teaching and various measures of student assessment.

The evidence indicates that boys and girls react differently to success in school. The rationale is that girls are uncomfortable with success because it provokes a conflict. They are concerned with appearing less feminine and becoming less popular with boys when they outperform them. Girls value affiliation with their peers, holding an egalitarian ethic that stresses their connection and similarity to others (Gilligan, 1982). Superiority may result in higher status for boys and enhance their social life; whereas, achievement tends to restrict the social life of girls. Understanding that girls may not want to compete with boys in the classroom, yet providing them with the opportunity to experience leadership requires a delicate balancing act on the part of the teacher.

Gifted girls do not necessarily react to societal pressures in the same way other girls do. Highly capable girls may be more affected by societal barriers because they are the ones apt to want a career. On the other hand, they may be more androgynous; thus, less likely to be as heavily socialized into firm traditional sex-roles. Gifted girls resemble gifted boys more than they resemble other girls in tests of interest, personality, and values. It is not that they are disinterested in domestic issues, but that they have a wider range of interests including many areas that were traditionally thought of as being masculine concerns. Participation in school courses and in extracurricular activities affects the career choices of students and has an impact on their eventual lifestyles. Girls must be encouraged to follow their own interests instead of being influenced by the choices made by other females in their families or peer group.

Promise in young girls should not be overlooked. Girls often become discouraged from taking an intellectual challenge. They experience more conflict in naming occupational choices because the high status careers have been associated with male roles and competition, individuality, and independence. Many girls are at risk of not being identified as gifted,

BEST COPY AVAILABLE

especially if they have limited English proficiency or obvious physical or learning disabilities. Often overlooked are girls who are rural students, from different cultural or racial backgrounds, from families displaying social problems, or with low socioeconomic status.

Study of the family backgrounds of exceptional individuals is illustrative of the complexities involved; there is more than one developmental pathway to eminence (Albert, 1991). Interestingly, home environments characterized by adversity as well as those of nurturance may be instrumental in the development of the personality attributes descriptive of extraordinary adult achievers. Families are the cradles of eminence (Goertzel & Goertzel, 1962); familial influences have much to do with becoming famous (Simonton, 1994). However, socialization within the family often varies for boys and girls. Boys may be rewarded for physical and aggressive activities rather than more passive, intellectual ones. Girls may have limited exposure to risk-taking activity. Attitudes may suggest to girls that parents value beauty over brains or provide subtle pressure to marry well. Obviously, circumstantial factors in the family structure that cannot be altered like birth order and parental status; yet, some components can be changed by caring and knowledgeable parents.

Factors within the family that promote achievement motivation in girls have been the focus of recent research using a sample of 197 eminent Canadian women (Schlosser & Yewchuk, 1995). The results indicate that eminent women believe their childhood interests had an important part to play in the career development. Reading was the most common interest that the respondents felt was strong enough to be called a "passion." The passions of childhood usually carried on into adulthood and had an impact of their adult attainment of eminent status. The implication of this finding is that parents must nurture their daughters' early interests and support their search for knowledge, whether it be through reading or browsing the internet. Another important finding was that most of the women studied had the perception of being "special" within their families of origin. By being treated specially or by having a particular role in the family dynamics, 76% of these women experienced being valued by being differentiated from their siblings. They reported being special because of their birth order, individual talents or achievements, state of health, or a specific aspect of their personality. The inference is that parents need to demonstrate in some way an appreciation of their daughters and of their extraordinary abilities or accomplishments.

Special attention to highly capable girls must also be provided by school personnel. Individual counselling would assist with appropriate goal setting and the analysis of career paths. Girls may require encouragement to achieve academically in all subject areas. Teachers must become aware of individual cognitive patterns and learning styles. Promoting individual responsibility and independence will assist girls in developing achievement motivation. Intrinsic motivation is more consequential to peak performance than intelligence: "I can" is more important than IQ. Aware that success itself must be valued by those people in meaningful relationships with the girls, both educators and parents must provide opportunities for early success.

The pattern of success in female achievement is much more complicated than it is in males. Even a high level of success can feel like a failure to a woman when it is not encouraged. Parents and teachers must realize that gifted girls try to live up to the expectations of others. By providing opportunities for the young gifted girl to experience success, differentiation, and responsibility, we assist her in pursuing the realization of her potential. Childhood success is the antecedent of adult success and the avenue by which achievement becomes part of the self-concept. The happiness that is derived from personal accomplishment and excellence must be experienced before success will become a discernible goal for adulthood.

Suggestions for promotion of success in girls can be summarized as follows:

- Nurture their childhood interests
- Value their abilities and achievements
- Develop their leadership skills
- Provide role models and mentorship
- Provide career education and counselling
- Understand different learning styles
- Encourage the study of mathematics, the sciences, and the computer
- Provide opportunities for expressing their creativity
- Reduce sex-role stereotypy

One cannot become outstanding in a field of endeavor without standing out from the others. Relationships are important to girls; being accepted by others may be paramount to school-aged gifted girls. If they do not like to be singled out, recognition and eminence become impossible. Canadian women who did become eminent usually held a special role place or role within the family during their childhood years. It is my contention that by being treated specially early in the family setting, these women were able to deal psychologically with special recognition later in their professional lives. They were valued as successful individuals and accepted as achieving females, even as children. Being differentiated in early childhood and adolescence may have enabled these women to be comfortable with the level of distinction they attained in later years. As parents and educators, we must strive to alleviate the big problem for gifted girls: whether to achieve or be accepted. Our role must be to provide the support that allows each girl to explore her own personal limits without restrictions based on the attitudes of others.

References

Albert, R. S. (1990). Identity, experiences, and career choice among exceptionally gifted and eminent. In M.A. Runco & R.S. Albert (Eds.), *Theories of creativity* (pp. 13-24). Newbury Park, CA: Sage Publications.

Albert, R. S. (1991). People, processes, and developmental paths to eminence: A developmental-interactional model. In R.M.Milgram (Ed.), *Counseling gifted and talented children: A guide for teachers, counselors, and parents* (pp. 75-93). Norwood, NJ: Ablex Publishing Corporation.

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development.* Cambridge, MA: Harvard University Press.

Gipps, C., & Murphy, P. (1994). *A fair test? Assessment, achievement, and equity.* Buckingham, England: Open University Press.

Goertzel, V., & Goertzel, M. G. (1962). *Cradles of eminence: A provocative study of the childhoods of over 400 famous twentieth-century men and women.* Boston: Little, Brown.

Grossman, H., & Grossman, S. H. (1994). *Gender issues in education.* Boston: Allyn and Bacon.

Piirto, J. (1994). *Talented children and adults: Their development and education.* NY: Macmillan.

Schlosser, G.A., & Yewchuk, C.R. (1995, May). *Perceptions of childhood specialness among eminent Canadian women.* Paper presented at the Henry B. and Jocelyn Wallace National Research Symposium on Talent Development, The Connie Belin & Jacqueline N. Blank International Centre for Gifted Education and Talent Development, The University of Iowa, Iowa City, IO.

Simonton, D.K. (1994). *Greatness: Who makes history and why?* New York: The Guilford Press.

Subotnik, R., Kassan, L., Summers, E., & Wasser, A. (1993). *Genius revisited: High IQ children grown up.* Norwood, NJ: Ablex Publishing Corporation.

Terman, L., & Oden, M. (1959). The gifted group at mid-life: Thirty-five years' follow-up of the superior child. In L. Terman (Ed.), *Genetic studies of genius.* (Vol. 5), Stanford, CA: Stanford University Press.

Parents as Models

Beverley A. Sohnle
University of Alberta
Edmonton, Alberta

Who you are speaks so loudly I can't hear what you're saying.

Ralph Waldo Emerson
Quoted by P. Fripp (1992)

It is our actions which speak loudest of our values. What we do has significantly more impact than what we say on those around us. This reality is very important in the parent/child relationship. It is particularly relevant in the relationships of parents to their gifted children, since such children are especially astute and sensitive to inconsistencies between what their parents say and do.

A research study about gifted learners is described in the book *Patterns of Influence on Gifted Learners—The Home, the Self, and the School* (1989). In 1985-86 a group of 193 American families of academically able students in grades 6 to 12 participated in the study. The intent was to explore the relationship between family environment variables such as values espoused, values enacted, and family climate with outcome measures of aptitude, achievement, and self-concept of the children in these families. Values enacted were found to have a significantly higher impact overall on all three outcome measures than either values espoused or the family climate. This study demonstrates that it is parents' actions, not their words, that are likely to have the greatest probability of influencing their children's potential for success. "Do as I do" was found to be a much stronger message than "do as I say".

In the book *Parenting the Gifted* (1981), there is a description of a group of parents of gifted children in Westchester County, New York. This parent group took to heart the importance of the impact of their role as models of what they valued for their children. They identified several areas in which they came to recognize that their behaviours were having the

opposite influence as compared to their intentions and what they were saying to their children. Specifically, these parents wanted their children to feel safe enough to take chances, to risk being wrong, and to make mistakes. Instead, they saw their children as being self-critical, fearful of not being first, and unwilling to try new things. One mother, on self-reflection, realized that although she talked about the need for risk-taking, she was personally unwilling to put herself in situations in which she did not believe that she could perform successfully. As a result of this awareness, she and the other parents in the group began to model risking failure by trying new activities, by developing new skills, by tolerating failure for themselves and by feeling freer to experiment.

Another area of dissatisfaction was concern that their children spent far too much leisure time watching TV rather than reading books, doing sports, enjoying hobbies and playing with friends. Although the parents valued better use of leisure time, they realized that they too were "vegging-out" in front of the TV more than they had realized. The parents chose to change their activities and demonstrate greater consistency between their actions and the message they sent to their children through their words.

The parent group wanted their children to develop effective social skills, to be humble, to accept others, and to appreciate differences in others' abilities. Instead, they perceived their children to be hyper-critical of others, impatient, lacking in understanding and ridiculing others. Many parents realized that they also made unkind remarks, used sarcasm, and had created a hierarchy of valued persons. The group believed that it was necessary to make changes in their own interactions with others before they could expect their children to believe in the importance of showing respect and valuing other people.

Overdependence on adults was seen to be another area of concern. The parents wanted their children to be independent and willing to tackle difficult jobs in order to develop competence, but found the children waiting for adults to do the tasks for them. Some of the parents in the group recognized in themselves an unwillingness to tackle unfamiliar tasks when someone else was willing to do it for them. Awareness, once again led to changes in the behaviors that the parents modeled for their children.

For parents of gifted children, there are a wide variety of important modelling opportunities. Creativity, a common characteristic of gifted individuals, may be something parents value highly and may want to encourage in their children; unfortunately, it may well be given a very low priority for commitment of time, space, resources, and energy in the parent's own life. If parents don't demonstrate that use of one's unique creative talents is important for life satisfaction, it is unlikely that their children will perceive their talents to be of significant value or importance.

If parents become highly immersed in one aspect of life—work, sports, etc. to the detriment of leading a relatively balanced life—having time for relationships, quiet time alone, work, play, spirituality, and physical expression then it will become difficult for children to know or value many areas of life as being relevant for themselves.

The ability of parents to function as effective models for their gifted children may be complicated by the possibility that the parents are gifted individuals themselves, and may not have developed effective coping skills for dealing with the complications and drawbacks of being gifted. If parents have not developed successful coping skills themselves and are struggling to find ways to deal with their own giftedness, they may, in fact, add to the difficulties their children experience in trying to develop their own coping strategies.

Perfectionism is commonly an area of difficulty experienced by many gifted individuals. A perfectionistic parent or child may exhibit any of the following behaviors: being both self-critical and critical of others; being overly focused on details; dedicating inordinate amounts of time and energy to relatively unimportant aspects of their lives; being unable to act or make decisions out of anxiety about making a less than perfect decision; or procrastinating for the same reason. M. Adderhold-Elliott's book *Perfectionism—What's Bad About Being Too Good?* includes many positive suggestions which are useful for both parents and children to escape from the "perfectionism" trap. Some of these suggestions include learning relaxation techniques such as yoga, meditation, and breathing exercises, consciously learning to fail, acceptance of less than perfection, and learning to laugh.

Many gifted people are idealists. They have the ability to envision the possibility of a perfect world but in reality the world is far from perfect and so many of these people react with anger and frustration—fighting the injustice and the imperfection in a lone crusade to make the world perfect. Others withdraw from the world and isolate themselves as much as possible in order to avoid the disappointment they experience each time they are confronted by the world's realities. Parents who experience these difficulties must first become aware of how they are responding and the effect it is having on both themselves and their families. It is useful to undertake an analysis of the costs and benefits ensuing from such a response. The next step might include making a conscious choice to engage only in those battles which are most important to the individual and which have the greatest likelihood of making a difference in the world or their lives. By changing from a response of intense anger or withdrawal to focusing of energies on specific goals in a proactive way, these parents may model how to put their idealism to effective use for their children.

Most gifted people experience the world quite intensely. It is common to have gifted people become so passionately committed to their ideas that they do not understand that other people (or perhaps their own children) may also feel very intense and passionate but not necessarily in the same way or about the same things. Parents can model for their children an ability to relax, to take time-outs, to look analytically at their own passions and to be open-minded about others ideas.

Many gifted adults and children are overly sensitive to what they perceive to be slights by other people. Parents can model for their children how to solicit feedback from others from whom they are picking up the "negative vibes" so that they can verify whether or not there is anything to be concerned about in the relationship.

Competitiveness may be demonstrated by both parents and children in inappropriate parts of life such as within relationships and in environments in which it is cooperation which would be the most appropriate response. When one's self-esteem is attached to being the winner rather than being oneself, then every activity becomes a competition. Parents may need to demonstrate to children that one can be a valuable and contented person whether one "wins" or not by being able to accept losing graciously, by practising cooperation and by establishing a goal of win/win in areas where conflict exists.

Parents are highly influential people in the lives of their gifted children. By consciously modelling their beliefs and values through deliberate behaviors that influence may be very effective and positive. Parenting through modelling is a worthwhile investment in our children's futures.

References

Adderholdt-Elliott, M. (1987). *Perfectionism—What's bad about being too good?* Minneapolis: Free Spirit Publishing.

Fripp, P. (1992). What you are is as important as what you do. In J. Canfield & M. Hansen, *Chicken soup for the soul* (p. 103). Deerfield Beach, FL: Health Communications, Inc.

Kulieke, M. J. & Olszewski-Kubilius, P. (1989). The influence of family values and climate on development of talent. In J. Van Tassel-Baska & P. Olszewski-Kubilius (Eds.), *Patterns of influence on gifted learners: The home, the self, and the school* (pp. 45-57). New York: Teachers College Press.

Miller, B. S. & Price, M. (Eds.) (1981). *The gifted child, the family, and the community*. New York: The American Association for Gifted Children.

Underachievement of Women and Girls: Changing Societal Expectations and Attitudes[1]

Lorraine Wilgosh
University of Alberta
Edmonton, Alberta

Lack of gender equity in the workplace has been well documented. Evidence exists (e.g., Dick & Rallis, 1991) that this inequity, particularly in science and engineering professions, may result from differential educational and employment opportunities for women due to educational and societal biases.

Hyde (Hyde, 1981; Hyde, Fennema, & Lamon, 1990) used meta-analysis to re-examine Maccoby and Jacklin's (1974) "well-established" gender differences, finding that the reported gender differences were extremely small. Yet girls begin to perform less well than boys in high school problem solving tasks. Hyde et al. (1990) charged schools with the responsibility for teaching problem solving to all students "because it is an issue of gender equity" (p. 151). Favreau (1993) strongly cautioned that significant, although very small, mean gender differences in research co-exist with overlap between the gender score distributions. "[A]s long as there are any males and females who have obtained identical values on the dependent variable, then it is logically mistaken to conclude that one sex, as a group, differs from the other" (Favreau, 1993, p. 72). Regrettably, such gender differences have often been accepted as "fact". Illustrating such bias, Fuchs and Fuchs (1995) suggested that girls do less well than boys, on average, on standardized achievement testing "because teachers typically pay them less attention, give them less encouragement, and admonish them for speaking out" (p. 304). The case was made for separate classes, where girls excel in math and science. "Sometimes... separate isn't equal; it's better" (Estrich, 1994, as quoted in Fuchs & Fuchs, 1995, p. 304).

Increasing numbers of girls' schools reflect parents' beliefs that "girls learn differently from boys" (Cannon, 1995, p. 18). Commenting on negative findings of many studies of girls' achievement, Cannon stated, "Silence, loss of self-esteem, verbal harassment, and high dropout rates aren't supposed to be the fruits of thirty years of women's liberation. We

were supposed to see levelled playing fields and equality long ago, but... that dream was flawed from the outset because it was undercut by the idea of women as deficient" (p. 22). Such a deficiency perception of girls required that, "Girls would have to change,... develop more grit, become more assertive, more like boys, more normal" (p. 22). However, "so-called 'deficiencies' are nothing more than ordinary gender difference. Girls... learn math and science best in groups where learning is shared. They prefer to collaborate in learning and place less importance on independence and competition than boys of the same age" (p. 22).

Thus, while many writers (e.g., Hyde et al., 1990) promote gender-equity strategies to allow equality of opportunity for girls in traditionally male-dominated fields, others (e.g., Cannon, 1995; Fuchs & Fuchs, 1995) propose separate educational approaches for girls to allow their development in more gender-specific career directions.

Articulating this dichotomy, Kimball (1994) has identified two different feminist perspectives on gender differences and similarities which lead to vastly different social outcomes. Those feminist psychologists who focus on similarities between men and women (**similarities tradition**) are motivated to promote full participation (i.e., political and social equality) of women in a "male-dominated public world" (p. 388). By emphasizing the lack of differences in skills and competencies between the genders and impact of situational variables on gender inequity, scientific justification is given for political equality.

By contrast, feminist psychologists who focus on gender differences (**differences tradition**) have the goal of creating a different world order where women's qualities of caring, connection, and reciprocity, are valued over power, separation, and hierarchy (Kimball, 1994). The differences tradition advocates separate spheres of influence for women, on the basis that positive human qualities have been undervalued because associated with women. "Central to the concerns of this tradition are the sense of connectedness, concern with human relationships, and caregiving that women, more than men, bring to human culture" (Kimball, 1994, p. 389). Differences are accepted but the devaluation of women's contributions is questioned. Kimball noted that the differences tradition is criticized as scientifically incorrect and politically regressive, providing justification for exclusion and subordination of women because women's work is undervalued.

Kimball argues for the necessity of both perspectives (i.e., justice and care) in understanding women's and men's lives. She warns that the similarities perspective, which demonstrates that women perform as well as men in a male-dominated society, "reinforces and justifies a symbolic male system" (p. 400). There is a need to challenge the existing order and to question the values we want to promote as human values. "Both traditions have important strengths to challenge the status quo, and both can be subverted to support it" (p. 400).

Operating within a differences tradition (alpha bias), Reis (1991) suggested that we need to study problems and challenges facing women; "We may find it useful to redefine achievement in a way that adequately reflects the conscious choices and decisions made by high ability females" (p. 197). Leroux and Butler-Por (1992) also expressed the goal of developing a female model of achievement, rather than comparing women to a male achievement model.

By contrast to such initiatives, we must examine cautiously approaches which make the assumption that girls must be changed rather than recognizing the need for societal changes (Briskin & Coulter, 1992). Encouraging girls to succeed in mathematics and science is valuable (e.g., Hyde et al., 1990), but not if it devalues other options (e.g., Harris, 1994). We must expand the options for individuals, supporting all individuals' learning preferences and styles. We must focus on changing and improving society, moving away from male-dominated structures, toward greater valuing of caring and connection over power and hierarchy (Hare-Mustin & Marecek, 1988; Kimball, 1994).

Hare-Mustin and Maracek (1988) have suggested that alpha (differences tradition) and beta (similarities tradition) biases in gender conceptualization create paradoxes for social change movements. To illustrate, "feminist separatism, the attempt to avoid male influence by separating from men, leaves intact the larger system of male control in the society" (p. 462). Furthermore, with "man" as "the hidden referent in our language and culture" (p. 462)... "women can only aspire to be as good as a man, there is no point in trying to be as good as a woman" (Spender, 1984, as cited in Hare-Mustin & Marecek, 1988, p. 462), affirming a male standard for all behavior. These authors challenge us toward new conceptualizations of gender "in heretofore unimagined ways" (p. 462).

References

Briskin, L., & Coulter, R. (1992). Feminist Pedagogy: Challenging the normative. *Canadian Journal of Education, 17*(3), 247-263.

Cannon, M. (1995, February). *No boys allowed.* Saturday Night, 18-24.

Dick, T., & Rallis, S. (1991). Factors and influences on high school students' career choices. *Journal of Research in Mathematics Education, 22*(4), 281-292.

Favreau, O. (1993). Do the Ns justify the means? Null hypothesis testing applied to sex and other differences. *Canadian Psychology, 34*(1), 64-76.

Fuchs, D., & Fuchs, L. (1995). Counterpoint: Special education—Ineffective? Immoral? *Exceptional Children, 61,* 303-306.

Hare-Mustin, R., & Marecek, J. (1988). The meaning of difference: Gender theory, postmodernism, and psychology. *American Psychologist, 43,* 455-464.

Harris, J. (1994). Perceptions of engineering, nursing, and psychology students' personalities. *Canadian Journal of Behavioural Science, 26,* 484-491.

Hyde, J. S. (1981). How large are cognitive gender differences? *American Psychologist, 36*(8), 892-901.

Hyde, J.S., Fennema, E., & Lamon, S. (1990). Gender differences in mathematics performance: A meta-analysis. *Psychological Bulletin, 107*(2), 139-155.

Kimball, M. (1994). The worlds we live in: Gender similarities and differences. *Canadian Psychology, 35,* 388-404.

Leroux, J., & Butler-Por, N. (1992, October). *Breaking the barriers to identity and achievement: Gifted females in high school and beyond.* Paper presented at The Third European Conference of the European Council for High Ability, Munich.

Maccoby, E., & Jacklin, C. (1974). *The psychology of sex differences.* Stanford: Stanford University Press.

Reis, S. (1991). The need for clarification in research designed to examine gender differences in achievement and accomplishment. *Roeper Review, 13*(4), 193-206.

Footnote

1. Main themes from the paper by the same title prepared for the 6th Annual SAGE Conference, Edmonton, Alberta, September 1995. The paper was not presented due to

illness. Those who missed hearing the paper can receive a copy of the complete paper by contacting the author at (403)492-3738, or by mail at The Department of Educational Psychology, 6-102 Education North, University of Alberta, Edmonton, T6G 2G5.

Cooperative Learning: Is It Suitable for Gifted Students?

Carolyn Yewchuk
University of Alberta
Edmonton, Alberta

Abstract

Cooperative learning is being recommended for a variety of instructional purposes within regular classrooms, in spite of the questions raised by educators and parents of gifted and talented children who fear that wholesale implementation of this teaching strategy is detrimental to the achievement of their children. Supporters of cooperative learning contend that the research indicates support for use of cooperative learning with all children in heterogeneous classrooms, including the gifted and talented (Johnson & Johnson, 1992). This is not so. The research shows that students of low, medium and high ability increase achievement in cooperative settings when compared with traditional classrooms and individual learning situations. In these studies, however, "high achievers" or "high ability" students generally constitute the top 33%, not the top 1 to 5% of students. Results for high achievers are generalized to gifted students without research justification for doing so. Teachers of gifted children believe that cooperative learning can be of benefit to gifted students within homogeneous groupings but not in heterogeneous classes (Nelson, Gallagher & Coleman, 1993). Successful implementation of cooperative learning for gifted students in homogeneous and heterogeneous groupings requires collaborative effort and input from experts in both cooperative education and gifted education (Coleman & Gallagher, 1995).

Advocates of cooperative learning claim that this instructional method provides the answer to all of the problems facing education today. According to Slavin (1990c), cooperative learning is being widely promoted as:

- an alternative to tracking and within-class grouping
- a means of mainstreaming academically handicapped students
- a way of improving race relations in desegregated American schools
- a solution to the problems of students at risk

- a means of increasing prosocial behavior among children
- a method for increasing the achievement of all students.

What is this remarkable panacea for boosting motivation and increasing achievement of students ? Put simply, cooperative learning is a form of instruction in which students are encouraged "to work toward common (academic) goals and to interact with each other in activities such as completing group assignments and studying together" (Bowd, McDougall & Yewchuk, 1994, p. 416). It is touted as an instructional method for promoting collaborative learning and prosocial behavior among students. While engaged in the learning of academic content, the students get to know each other better and to value what each has to contribute.

Cooperative learning activities can be structured in many different ways according to the roles played by teacher and students, group versus individual grading practices, relative emphasis upon competition among the small groups, and general versus specific subject matter. (See Robinson, 1991, for a summary of eleven models of cooperative learning.) The four best known alternatives are categorized in Table 1 (adapted from Bowd, McDougall & Yewchuk, 1994, p. 417).

In Teams-Games-Tournament students within heterogeneous groups quiz each other following presentation of subject matter by the teacher in preparation for a weekly class "tournament." Student Teams-Achievement Divisions is structured in a similar way, but students write short quizzes instead of participating in a contest after studying in groups. Students have more flexibility to pursue areas of personal interest in Small-group Teaching while preparing a group presentation to the class. In Jigsaw every student has access to different information on a teacher-assigned topic and serves as a resource person to others in the group.

Irrespective of type or strategy, a common set of characteristics underlie cooperative learning (Slavin, 1990c). Among the most noteworthy are:

- a group goal. The students have a preset objective to reach, such as a group grade, certificate or other recognition.

• individual accountability. Every group member is responsible in some way for achieving the group goal. The individual scores are summed to obtain the group grade.

• equal opportunity for success. The contribution of every group member to the team is valued equally.

• adaptation to individual needs. The groups may be structured to reflect the potential for contribution of students with special needs.

• task specialization. Each group member is responsible for performing a specific subtask within the group.

• competition between teams. The purpose of competition is to motivate students to cooperate within teams.

The research on cooperative learning has reported consistently positive effects in basic skill achievement, improved cross-ethnic relationships, acceptance of students with special needs and gains in self-esteem. These gains are reported for students of all levels of ability when compared with control groups taught in traditional classrooms. It is claimed that high achievers gain from cooperative learning "because of the routine opportunity to explain to groupmates what they have just learned" (Slavin, 1990a, p. 6). In the research, high achievers generally constitute the top 33% of students within a classroom. When pressed, however, Slavin (1990b) concedes that the research base on use of cooperative learning with the "truly gifted" (those constituting the top 1 to 5%) is "virtually non-existent." The great majority of studies of cooperative learning focus on acquisition of basic learning skills, not the higher order processing skills more appropriate for gifted children (Slavin, 1990c).

It is doubtful that students who differ in their knowledge of a subject by several grade levels can contribute equally to a group activity. Robinson (1990) points out that heterogeneous cooperative learning groups have been found to be more effective when there is a student who can explain the material to others in the group. This, she claims, constitutes exploitation of gifted children as tutors for slower learners, at the expense of their own learning. "The disadvantages of cooperative learning for academically talented students are primarily those of limiting instruction to grade level materials, presented at the pace of a grade level group and evaluated primarily on basic skill measures" (p. 22). If held to the pace and level of their age peers, gifted students are not given the opportunity to reach their full academic potential.

What do gifted students themselves prefer? Matthews (1992) interviewed 15 gifted 6th and 8th graders from a district which has been involved with cooperative learning since 1983. She found that, contrary to the claims of advocates of cooperative learning (Johnson & Johnson, 1992, Slavin, 1990a), none of the students saw any benefits to themselves in explaining already learned material to others. They reported having a hard time understanding why slower learners found the material difficult, and resented having to explain to uninterested students. In order to get a good grade, they often found themselves taking over the group. As one student complained, "I spent half of my time explaining to the others in the group what to do and they just sat there reading magazines in the library all the time. I did all the work. . . " (p. 48). Additional areas of concern voiced by gifted students within heterogeneous groupings include "having to act as the 'teacher,' doing 'all' the work, being slowed down, receiving lower grades, doing 'easy' stuff, and feeling uncomfortable when they appeared 'too smart.'" (Coleman & Gallagher, 1995, p. 380).

The students in Matthews' study preferred to work in homogenous groups. They were much less negative about cooperative learning when working with students on their own level. Here is what one student said: "If we're all on the same level we just help each other .... If one kid knows more on one subject, he teaches the other ones, and if another one knows another subject, he just tells them what he knows. I don't think we have a dominant person (p. 49). Coleman and Gallagher (1995) found enthusiastic gifted student support for cooperative learning in homogeneous groups, e.g., an honors physics class in high school, an accelerated math class in elementary school, an advanced literature seminar in middle school.

In terms of building social relationships and acceptance of differences, which are primary objectives of cooperative learning, the students in Matthews' study were more likely to experience positive growth in groups where other students listened to them, shared knowledge, and did their share of the required work. In groups of like-ability peers, they formed trusting relationships, and learned how to share leadership. Thus, cooperative learning can be used successfully with gifted students provided that grouping provides opportunities for interacting with others who are capable of higher-level thinking skills.

This point of view was reflected in the opinions of educators of the gifted but not proponents of cooperative learning polled in a national (American) study conducted by Nelson, Gallagher and Coleman (1993). Proponents of cooperative learning believed that cooperative learning was worthwhile for gifted students in heterogeneous classrooms. In contrast, educators of the gifted saw substantial problems with cooperative learning, expressing concerns about gifted students being turned into junior teachers or limited to a non-challenging curriculum. Both groups agreed on the need for more staff development and information on using cooperative learning with gifted students.

Suggesting that the learning style preferences of students may be a factor in the effective use of cooperative learning as an instructional method, Li and Adamson (1992) surveyed 169 gifted high school students regarding cooperative, competitive and individualistic style preferences for three subject areas: science, mathematics and English. They found that, overall, the cooperative style was not significantly more preferred for any subject matter by boys or girls, and, furthermore, that there was no significant relationship between preference for the cooperative style and academic achievement. Given these findings, Li and Adamson question whether cooperative learning is the most appropriate teaching strategy for gifted students.

It is unfortunate that cooperative learning has been pitted against ability grouping by critics of tracking (Mills & Durden, 1992). Claims for the superiority of cooperative learning are based on comparisons with traditional classrooms. There is no research showing that cooperative learning results in greater achievement than special programs designed specifically to meet the educational needs of gifted students. "The claim, therefore, that cooperative learning is the most effective means of serving the needs of all students, even the 'gifted,' cannot be made since it is not based on a direct comparison between cooperative learning and all other instructional practices" (Mills & Durden, 1992, p. 13).

Cooperative learning and gifted education are not incompatible. Slavin (1990a, p. 7) agrees that "use of cooperative learning does not require dismantling ability group programs." Group learning has been a feature of pull-out and other types of programs for gifted students for a long time. Cooperative learning and gifted programming can be blended

successfully. Coleman & Gallagher (1995) studied five schools considered exemplary by proponents of cooperative learning and leaders of gifted education. In these schools, experts in collaborative learning and gifted education were part of the program planning and implementation teams. The programs that were developed met the needs of gifted students within the cooperative learning framework in both homogeneous and heterogeneous settings.

How can we ensure that the educational needs of gifted and talented children are met in cooperative learning settings? "Gifted students have the right to be actively learning, processing, and producing throughout their school day. They should not be forced to spend the majority of their time in heterogeneous cooperative learning groups waiting for others to complete learning tasks they mastered long ago." (Ellett, 1993, p. 115). Cooperative learning may be an improvement over some traditional approaches, but there are other beneficial educational options for gifted children. Certainly, acceleration of subject matter, flexibility of pacing, continuous progress, enrichment in homogeneous groups, and a host of other alternatives are effective instructional methods for gifted and talented children. Cooperative learning should be an addition to, not a replacement of, effective instructional practice within gifted education.

Table 1

Comparison of Cooperative Learning Strategies

Type	What the Teacher does	What Students do	Method of Evaluation
Teams-Games-Tournament (Slavin, 1990c)	Presents material	Quiz each other	Written test
Student Teams-Achievement Divisions (Slavin, 1990c)	Presents material	Quiz each other	Written test
Small-group Teaching (Sharan, 1980)	Specifies general subject area	Prepare contribution to group project	Oral report
Jigsaw (Aronson et al., 1978)	Assigns subtopics	Share expertise with others	Written test

Adapted from Bowd, McDougall & Yewchuk, 1994, p. 416.

References

Aronson, E., Blaney, N., Stephan, C., Sikes, J., & Snapp, M. (1978). *The jigsaw classroom.* Beverly Hills, CA: Sage.

Bowd, A., McDougall, D., & Yewchuk, C. (1994). *Educational psychology for Canadian teachers.* Toronto, ON: Harcourt Brace.

Coleman, M. R., & Gallagher, J. J. (1995). The successful blending of gifted education with middle schools and cooperative learning: Two studies. *Journal for the Education of the Gifted, 18*(4), 362-384).

Ellett, P. (1993). Cooperative learning and gifted education. *Roeper Review, 16*(2), 114-116.

Johnson, D. W., & Johnson, R. T. (1992). What to say to advocates for the gifted. *Educational Leadership, October,* 44-47.

Li, A. K. F., & Adamson, G. (1992). Gifted secondary students' preferred learning style: Cooperative, competitive, or individualistic? *Journal for the Education of the Gifted, 16*(1), 46-54.

Matthews, M. (1992). Gifted students talk about cooperative learning. *Educational Leadership, October,* 48-50.

Mills, C. J., & Durden, W. G. (1992). Cooperative learning and ability grouping: An issue of choice. *Gifted Child Quarterly, 36*(1), 11-16.

Nelson, S. M., Gallagher, J. J., & Coleman, M. R. (1993). Cooperative learning from two different perspectives. *Roeper Review, 16*(2), 117-121.

Robinson, A, (1990). Cooperation or exploitation? The argument against cooperative learning for talented students. *Journal for the Education of the Gifted, 14*(1), 9-27.

Robinson, A. (1991). *Cooperative learning and the academically talented student.* Storrs, CT: National Research Center on the Gifted and Talented.

Sharan, S. (1980). Cooperative learning in small groups: Recent methods and effects on achievement, attitudes and ethnic relations. *Review of Educational Research, 50*(2), 241-271.

Slavin, R. E. (1990a). Ability grouping, cooperative learning and the gifted. *Journal for the Education of the Gifted, 14*(1), 3-8.

Slavin, R. E. (1990b). Cooperative learning and the gifted: Who benefits? *Journal for the Education of the Gifted, 14*(1), 28-30.

Slavin, R. E. (1990c). *Cooperative learning: Theory, research and practice.* Englewood Cliffs, NJ: Prentice-Hall.

Note

Portions of this chapter will appear in , "Applying The Principles In An Elementary School Classroom", in *Curriculum Development for the Gifted (2nd ed.)* (in press); edited by C. J. Maker & A. Nielson, published by Pro-Ed., Austin, TX.